

Dr. Duke's Phytochemical and Ethnobotanical Databases

List of Plants for ALPHA-THUJENE

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Boswellia serrata</i>	Essential Oil		500000.0	2.8262426673204106	--
<i>Boswellia sacra</i>	Resin, Exudate, Sap		192300.0	1.0	Chiavari, G., Galletti, G. C., Piccaglia, R., Mohamud, M. A. 1991. Differentiation Between Resins <i>Boswellia carterii</i> and <i>Boswellia frereana</i> (Frankincense) of Somali Origin. J. Essent. Oil Res. 3 (3):185-186.
<i>Melaleuca alternifolia</i>	Root Essent. Oil		133000.0	1.4120805090287523	--
<i>Piper cubeba</i>	Fruit Essent. Oil	120000.0	130000.0	1.694415544579461	--
<i>Boswellia serrata</i>	Resin, Exudate, Sap		80000.0	-1.0	Sabinsa: A series of well documented proprietary PR booklets, e.g.Sabinsa Corps. 1998. Bronchial Asthma - Its etiology and control with traditional herbal extracts. Sabinsa Corporation. Piscataway, NJ. 49 pp.
<i>Anethum graveolens</i>	Leaf Essent. Oil		33400.0	1.3792500393171634	--
<i>Myristica fragrans</i>	Seed Essent. Oil		30000.0	1.0	--
<i>Piper nigrum</i>	Fruit Essent. Oil	7300.0	29000.0	-0.22630241280017493	--
<i>Origanum majorana</i>	Essential Oil		19000.0	-0.27796616080745823	--
<i>Melaleuca alternifolia</i>	Essential Oil	4400.0	15000.0	-0.303780787236796	--
<i>Salvia officinalis</i>	Leaf Essent. Oil		13800.0	-0.41897395872827414	--
<i>Origanum vulgare</i>	Shoot Essent. Oil		11200.0	0.7911582080686764	--
<i>Elettaria cardamomum</i>	Root Essent. Oil		11000.0	-0.638798325513007	--
<i>Anethum graveolens</i>	Shoot Essent. Oil		10600.0	0.6195817292104092	--
<i>Thymus vulgaris</i>	Essential Oil		9200.0	-0.3412119955593358	--
<i>Vitex agnus-castus</i>	Leaf Essent. Oil		7900.0	-0.9602760805888906	Jim Duke's personal files.
<i>Satureja montana</i>	Essential Oil		7400.0	-0.3528285774525378	--
<i>Petroselinum crispum</i>	Seed Essent. Oil		7000.0	-1.0	--
<i>Artemisia annua</i>	Plant		6500.0	3.4068336142288143	--
<i>Tanacetum parthenium</i>	Essential Oil		6000.0	-0.36186369670280605	--
<i>Rosmarinus officinalis</i>	Shoot Essent. Oil		3500.0	-1.4107399372790863	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Elettaria cardamomum	Plant	1330.0	3047.0	1.2969582121204046	--
Elettaria cardamomum	Fruit	1330.0	3047.0	2.2243250322627803	Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.
Coleus barbatus	Root Essent. Oil		3000.0	-0.7732821835157451	Jim Duke's personal files.
Petroselinum crispum	Fruit Essent. Oil	1000.0	2600.0	-0.7283514630459411	--
Monarda fistulosa	Plant	3.0	2480.0	0.9505060392285806	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Piper cubeba	Fruit	1100.0	2200.0	1.4401949119825743	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Tanacetum parthenium	Fruit Essent. Oil		2000.0	-0.7397616687333448	--
Salvia officinalis	Essential Oil		1200.0	-0.3928412484180114	--
Origanum majorana	Plant	15.0	1100.0	0.10728911049715678	--
Tagetes minuta	Essential Oil		800.0	-0.3954227110609452	--
Monarda punctata	Plant	220.0	720.0	-0.12490105828395985	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Petroselinum crispum	Seed	4.0	490.0	1.2676723818974631	--
Rosmarinus officinalis	Plant	1.0	475.0	-0.274602614471785	--
Ocimum gratissimum	Plant	50.0	445.0	-0.29293341727029426	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Salvia officinalis	Leaf	0.0	386.0	3.2507273876024785	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
Origanum vulgare	Shoot		315.0	5.123194651318674	Lagouri, V., Blekas, G., Tsimidou, M., Kokkini, S., and Boskou, D. 1993. Composition and Antioxidant Activity of Essential Oils from Oregano Plants Grown Wild in Greece. Z. Lebensm Unters Forsch 197: 20-23.
Thymus serpyllum	Plant	15.0	306.0	-0.3778661369033869	--
Satureja montana	Plant	5.0	300.0	-0.38153229746308875	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Satureja thymbra</i>	Shoot		295.0	4.762551907216386	Lagouri, V., Blekas, G., Tsimidou, M., Kokkini, S., and Boskou, D. 1993. Composition and Antioxidant Activity of Essential Oils from Oregano Plants Grown Wild in Greece. <i>Z. Lebensm Unters Forsch</i> 197: 20-23.
<i>Juniperus communis</i>	Fruit	24.0	240.0	-0.37432106883112565	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Anethum graveolens</i>	Fruit	36.0	231.0	-0.3826530299675151	--
<i>Anethum graveolens</i>	Seed	36.0	231.0	-0.09092270877057655	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Melaleuca linariifolia</i>	Leaf	150.0	200.0	1.3864103732522657	Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
<i>Thymus capitatus</i>	Plant	60.0	190.0	-0.44874524105762253	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Eucalyptus moluccana</i>	Shoot		170.0	2.5085347565770877	Zrira, S. S., Benjlali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. <i>Journal of Essential Oil Res.</i> 4: 259-264.
<i>Thymus riatarum</i>	Shoot		120.0	1.606927896321368	Iglesias, J., Vila, R., Canigueral, S., Bellakdhar, and Il Idrissi, A. 1991. Analysis of the Essential Oil of <i>Thymus riatarum</i> . <i>J. Ess. Oil Res.</i> 3: 43-4.
<i>Eucalyptus camaldulensis</i>	Shoot		110.0	1.426606524270224	Zrira, S. S., Benjlali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. <i>Journal of Essential Oil Res.</i> 4: 259-264.
<i>Eucalyptus dealbata</i>	Shoot		105.0	1.336445838244652	Zrira, S. S., Benjlali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. <i>Journal of Essential Oil Res.</i> 4: 259-264.
<i>Rosmarinus officinalis</i>	Shoot	37.0	90.0	1.065963780167936	Soriano Cano, M.C., Sotomayor Sanchez, J.A., Sanchez Gomez, P. and Garcia Vallejo, M.C. 1993. Essential Oils of the Rosmarinus eriocalyx-tomentosus Complex in Southeast Spain. <i>J. Ess. Oil Res.</i> 5: 243-246.

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Melaleuca alternifolia</i>	Leaf		76.0	0.14353236368545716	--
<i>Thymus funkii</i>	Shoot		65.0	0.6151603500400763	Vila, R., et al. 1995. Composition and study of the variability of the essential oil of <i>Thymus funkii</i> Cousson. Flav. & Fragr. J. 10(6): 379-383.
<i>Thymus funkii</i>	Shoot		65.0	0.6151603500400763	Vila, R., et al. 1995. Composition and study of the variability of the essential oil of <i>Thymus funkii</i> Cousson. Flav. & Fragr. J. 10(6): 379-383.
<i>Satureja obovata</i>	Leaf		65.0	0.03327705638517577	Arrebola, M.L., Navaro, M.C., Jimenez, J. and Ocana, F.A. 1994. Variations in Yield and Composition of the Essential Oil of <i>Satureja obovata</i> . Phytochemistry 35(1): 83.
<i>Satureja obovata</i>	Leaf		65.0	0.03327705638517577	Arrebola, M.L., Navaro, M.C., Jimenez, J. and Ocana, F.A. 1994. Variations in Yield and Composition of the Essential Oil of <i>Satureja obovata</i> . Phytochemistry 35(1): 83.
<i>Hyssopus officinalis</i>	Shoot		60.0	0.5249996640145044	Kerrola, K., Galambosi, B. and Kallio, H. 1994. Volatile Components and Odor Intensity of Four Phenotypes of Hyssop (<i>Hyssopus officinalis</i> L.). J. Agric. Food Chem. 42: 776-781.
<i>Rosmarinus eriocalyx</i>	Shoot	33.0	52.0	0.38074256637358916	Soriano Cano, M.C., Sotomayor Sanchez, J.A., Sanchez Gomez, P. and Garcia Vallejo, M.C. 1993. Essential Oils of the <i>Rosmarinus eriocalyx-tomentosus</i> Complex in Southeast Spain. J. Ess. Oil Res. 5: 243-246.
<i>Rosmarinus eriocalyx</i>	Shoot	33.0	52.0	0.38074256637358916	Soriano Cano, M.C., Sotomayor Sanchez, J.A., Sanchez Gomez, P. and Garcia Vallejo, M.C. 1993. Essential Oils of the <i>Rosmarinus eriocalyx-tomentosus</i> Complex in Southeast Spain. J. Ess. Oil Res. 5: 243-246.
<i>Eucalyptus polyanthemos</i>	Shoot		50.0	0.3446782919633604	Zrira, S. S., Benjlali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven <i>Eucalyptus</i> Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Hyssopus officinalis</i>	Shoot		50.0	0.3446782919633604	Kerrola, K., Galambosi, B. and Kallio, H. 1994. Volatile Components and Odor Intensity of Four Phenotypes of Hyssop (<i>Hyssopus officinalis</i> L.). <i>J. Agric. Food Chem.</i> 42: 776-781.
<i>Rosmarinus officinalis</i>	Shoot	12.0	50.0	0.3446782919633604	Soriano Cano, M.C., Sotomayor Sanchez, J.A., Sanchez Gomez, P. and Garcia Vallejo, M.C. 1993. Essential Oils of the Rosmarinus eriocalyx-tomentosus Complex in Southeast Spain. <i>J. Ess. Oil Res.</i> 5: 243-246.
<i>Sideritis mugronensis</i>	Flower	35.0	45.0	1.0	Manez, S., Jimenez, A., and Villar, A. 1991. Volatiles of <i>Sideritis mugronensis</i> Flower and Leaf. <i>J. Ess. Oil Res.</i> , 3: 395-397.
<i>Citrus limon</i>	Essential Oil	16.0	40.0	-0.40032749008251933	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Eucalyptus sideroxylon</i>	Shoot		40.0	0.16435691991221646	Zriria, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. <i>Journal of Essential Oil Res.</i> 4: 259-264.
<i>Citrus aurantiifolia</i>	Fruit		40.0	-0.5594757607508909	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Thymus mastichina</i>	Plant		40.0	-0.5403992550501685	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Murraya koenigii</i>	Leaf		37.0	-0.24737281674281325	--
<i>Trichostemma dichotomum</i>	Shoot		35.0	0.0741962338866445	Tucker, A.O. and Maciarello, M.J. 1990. The Essential Oil of <i>Trichostemma dichotomum</i> . <i>J. Ess. Oil Res.</i> 2: 149-150.
<i>Eucalyptus oviformis</i>	Shoot		35.0	0.0741962338866445	Zriria, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. <i>Journal of Essential Oil Res.</i> 4: 259-264.
<i>Origanum onites</i>	Shoot		33.0	0.03813195947641571	Lagouri, V., Blekas, G., Tsimidou, M., Kokkini, S., and Boskou, D. 1993. Composition and Antioxidant Activity of Essential Oils from Oregano Plants Grown Wild in Greece. <i>Z. Lebensm Unters Forsch</i> 197: 20-23.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Pycnanthemum montanum	Shoot	28.0	32.0	0.02009982227130132	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Origanum vulgare	Plant	6.0	32.0	-0.545287469129771	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Hyssopus officinalis	Shoot		30.0	-0.015964452138927467	Kerrola, K., Galambosi, B. and Kallio, H. 1994. Volatile Components and Odor Intensity of Four Phenotypes of Hyssop (<i>Hyssopus officinalis</i> L.) J. Agric. Food Chem. 42: 776-781.
Hyssopus officinalis	Shoot		30.0	-0.015964452138927467	Kerrola, K., Galambosi, B. and Kallio, H. 1994. Volatile Components and Odor Intensity of Four Phenotypes of Hyssop (<i>Hyssopus officinalis</i> L.) J. Agric. Food Chem. 42: 776-781.
Hyssopus officinalis	Shoot		30.0	-0.015964452138927467	Kerrola, K., Galambosi, B. and Kallio, H. 1994. Volatile Components and Odor Intensity of Four Phenotypes of Hyssop (<i>Hyssopus officinalis</i> L.) J. Agric. Food Chem. 42: 776-781.
Hyssopus officinalis	Shoot		30.0	-0.015964452138927467	Kerrola, K., Galambosi, B. and Kallio, H. 1994. Volatile Components and Odor Intensity of Four Phenotypes of Hyssop (<i>Hyssopus officinalis</i> L.) J. Agric. Food Chem. 42: 776-781.
Rosmarinus tomentosus	Shoot	16.0	30.0	-0.015964452138927467	Soriano Cano, M.C., Sotomayor Sanchez, J.A., Sanchez Gomez, P. and Garcia Vallejo, M.C. 1993. Essential Oils of the Rosmarinus eriocalyx-tomentosus Complex in Southeast Spain. J. Ess. Oil Res. 5: 243-246.
Rosmarinus x lavandulaceus	Shoot	0.1	30.0	-0.015964452138927467	Soriano Cano, M.C., Sotomayor Sanchez, J.A., Sanchez Gomez, P. and Garcia Vallejo, M.C. 1993. Essential Oils of the Rosmarinus eriocalyx-tomentosus Complex in Southeast Spain. J. Ess. Oil Res. 5: 243-246.
Anethum graveolens	Leaf	10.0	25.0	-0.3676513337976657	--
Cuminum cyminum	Seed		24.0	-1.1767496731268863	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Cuminum cyminum	Fruit		24.0	-0.5742881361044722	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Rosmarinus x mendizabalii	Shoot	0.1	22.0	-0.1602215497798426	Soriano Cano, M.C., Sotomayor Sanchez, J.A., Sanchez Gomez, P. and Garcia Vallejo, M.C. 1993. Essential Oils of the Rosmarinus eriocalyx-tomentosus Complex in Southeast Spain. <i>J. Ess. Oil Res.</i> 5: 243-246.
Coridothymus capitatus	Shoot		22.0	-0.1602215497798426	Lagouri, V., Blekas, G., Tsimidou, M., Kokkini, S., and Boskou, D. 1993. Composition and Antioxidant Activity of Essential Oils from Oregano Plants Grown Wild in Greece. <i>Z. Lebensm Unters Forsch</i> 197: 20-23.
Hyptis suaveolens	Shoot		21.0	-0.178253686984957	Mallavarapu, G.R., Ramesh, S., Kaul, P.N., Bhattacharya, A.K., and Rao, B.R.R. 1993. The Essential Oil of <i>Hyptis suaveolens</i> (L.) Poit. <i>J. Ess. Oil Res.</i> 5: 321.
Hyptis suaveolens	Shoot		21.0	-0.178253686984957	Mallavarapu, G.R., Ramesh, S., Kaul, P.N., Bhattacharya, A.K., and Rao, B.R.R. 1993. The Essential Oil of <i>Hyptis suaveolens</i> (L.) Poit. <i>J. Ess. Oil Res.</i> 5: 321.
Hyssopus officinalis	Shoot		20.0	-0.1962858241900714	Kerrola, K., Galambosi, B. and Kallio, H. 1994. Volatile Components and Odor Intensity of Four Phenotypes of Hyssop (<i>Hyssopus officinalis</i> L.). <i>J. Agric. Food Chem.</i> 42: 776-781.
Hyssopus officinalis	Shoot		20.0	-0.1962858241900714	Kerrola, K., Galambosi, B. and Kallio, H. 1994. Volatile Components and Odor Intensity of Four Phenotypes of Hyssop (<i>Hyssopus officinalis</i> L.). <i>J. Agric. Food Chem.</i> 42: 776-781.
Pimenta dioica	Leaf		20.0	-0.4177673825705209	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Monarda didyma	Plant	2.0	20.0	-0.5526197902491747	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Citrus limon	Petiole		20.0		--
Cinnamomum verum	Leaf		19.0	-0.42779059232509187	Mallavarapu, G. R. et al. 1995. Investigation of the essential oil of cinnamon leaf grown at Bangalore and Hyderabad. <i>Flav. & Fragr. J.</i> , 10: 239-242.
Lavandula latifolia	Plant	1.0	19.0	-0.553230817009125	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Myrtus communis</i>	Shoot	2.0	18.0	-0.23235009860030018	--
<i>Peumus boldus</i>	Leaf	5.0	18.0	-0.4378138020796629	--
<i>Brassica oleracea</i> var. <i>capitata</i> L.	Shoot		18.0	-0.23235009860030018	--
<i>Origanum onites</i>	Plant		16.0	-0.5550638972889759	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Chrysanthemum parthenium</i>	Shoot		15.0	-0.2864465102156434	Hendriks, H., Bos, R., and Woerdenbag, H. J. 1996. The Essential Oil of <i>Tanacetum parthenium</i> (L.) Schultz-Bip. Flavor and Fragrance Journal 11(6): 367-71.
<i>Micromeria varia</i>	Shoot		15.0	-0.2864465102156434	Pedro, L.G., et al. 1995. Composition of the Essential oil of <i>Micromeria varia</i> Benth. ssp. <i>thymoides</i> (Sol. ex Lowe) Perez var. <i>thymoides</i> , and endemic species of the Madeira Archipelago. <i>flav. & Fragr. J.</i> 10(3): 199-202.
<i>Micromeria varia</i>	Shoot		15.0	-0.2864465102156434	--
<i>Tanacetum parthenium</i>	Shoot		15.0	-0.2864465102156434	Hendriks, H., Bos, R., and Woerdenbag, H. J. 1996. The Essential Oil of <i>Tanacetum parthenium</i> (L.) Schultz-Bip. Flavor and Fragrance Journal 11(6): 367-71.
<i>Porophyllum ruderale</i>	Plant		15.0	-0.5556749240489263	Loayza, I., de Groot, W., Lorenzo, D. et al. 1999. Composition of the essential oil of <i>Porophyllum ruderale</i> (Jacq.) Cass. from Bolivia. <i>Flav. & Fragr. J.</i> 14: 393-8.
<i>Pimenta dioica</i>	Fruit		14.0	-0.5835458707004604	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Angelica archangelica</i>	Root	1.0	13.0		--
<i>Laurus nobilis</i>	Flower		12.6	-0.9999999999999996	--
<i>Daucus carota</i>	Shoot		12.0	-0.34054292183098656	--
<i>Satureja cuneifolia</i>	Shoot		10.0	-0.3766071962412153	Tumen, G. 1991. The Volatile Constituents of <i>Satureja cuneifolia</i> . <i>J. Ess. Oil Res.</i> , 3: 365-366.
<i>Sideritis pauli</i>	Shoot		10.0	-0.3766071962412153	Burzaco, A., Velasco-Negueruela, A. and Perez-Alonso, M.J. 1992. Essential Oil Analysis of <i>Sideritis pauli</i> Pau. <i>FFJ</i> : 47-8. 1992.

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Lepechinia calycina</i>	Plant		10.0	-0.5587300578486778	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Eucalyptus cladocalyx</i>	Shoot		10.0	-0.3766071962412153	Zrira, S. S., Benjlali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
<i>Micromeria fruticosa</i>	Shoot		7.0	-0.43070360785655853	Fleisher, Z. and Fleisher, A. 1991. The Essential Oil of <i>Micromeria fruticosa</i> (L.) Druce subsp. <i>barbata</i> (Boiss et. Ky.), P.H. Davis. Aromatic Plants of the Holy Land and the Sinai. Part VII. J. Ess. Oil Res 3: 477-479.
<i>Micromeria fruticosa</i>	Shoot		7.0	-0.43070360785655853	Fleisher, Z. and Fleisher, A. 1991. The Essential Oil of <i>Micromeria fruticosa</i> (L.) Druce subsp. <i>barbata</i> (Boiss et. Ky.), P.H. Davis. Aromatic Plants of the Holy Land and the Sinai. Part VII. J. Ess. Oil Res 3: 477-479.
<i>Origanum minutiflorum</i>	Shoot	5.0	7.0	-0.43070360785655853	Baser, K.H.C., Tumen, G., Sezik, E. 1991. The Essential Oil of <i>Origanum minutiflorum</i> O. Schwarz and P.H. Davis. J. Ess. Oil Res. 3: 445-446.
<i>Teucrium polium</i>	Shoot		7.0	-0.43070360785655853	Perez-Alonso, M.J. Velasco-Negueruela, A. and Lopez-Saez, J.A. 1993. The Essential Oils of Two Iberian <i>Teucrium</i> Species. J. Ess. Oil Res. 5: 397-402.
<i>Sideritis mugronensis</i>	Leaf	4.0	6.0	-0.5580923191345154	Manez, S., Jimenez, A., and Villar, A. 1991. Volatiles of <i>Sideritis mugronensis</i> Flower and Leaf. J. Ess. Oil Res., 3: 395-397.
<i>Laurus nobilis</i>	Leaf		5.7	-0.5610992820608867	--
<i>Teucrium gnaphalodes</i>	Shoot		5.0	-0.4667678822667873	Perez-Alonso, M.J. Velasco-Negueruela, A. and Lopez-Saez, J.A. 1993. The Essential Oils of Two Iberian <i>Teucrium</i> Species. J. Ess. Oil Res. 5: 397-402.
<i>Tagetes filifolia</i>	Shoot		4.7	-0.4721775234283216	--
<i>Salvia dorisiana</i>	Shoot	2.3	2.9	-0.5046353703975276	Tucker, A.O. & Maciarello, M.J. 1994. The Essential Oil of <i>Salvia dorisiana</i> Standley. J. Ess. Oil Res. 6: 97-8.

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Salvia gilliesii</i>	Shoot		2.5	-0.5118482252795733	Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320.
<i>Leonotis leonurus</i>	Se		2.0		Pedro, L.G., Barroso, J.G., Marques, N.T., Ascensao, L., Pais, M.S.S. and Scheffer, J.J.C. 1991. Composition of the Essential Oil from Sepals of <i>Leonotis leonurus</i> R. Br. J. Ess. Oil Res. 3: 451-3
<i>Citrus reticulata</i>	Fruit	1.0	2.0	-0.5946551522156464	--
<i>Vitex agnus-castus</i>	Leaf		1.4	-0.604199084005542	Ekundayo, O., Laakso, I., Holopainen, M., Hiltunen, R., Oguntiemein, B., and Kauppinen, V. 1990. The Chemical Composition and Antimicrobial Activity of the Leaf Oil of <i>Vitex agnus-castus</i> L. J. Essential Oil Research, 2: 115-119.
<i>Elsholtzia pilosa</i>	Shoot		1.4	-0.5316835762051991	--
<i>Citrus sinensis</i>	Fruit	0.7	1.0	-0.5955809256752451	--
<i>Rosmarinus officinalis</i>	Shoot		1.0	-0.5388964310872448	Tucker, A. O. and Maciarello, M. J. 1998. The essential oils of some rosemary cultivars. Flavor and Fragrance Journal, 1: 137-142. 1986.
<i>Callicarpa americana</i>	Leaf		1.0	-0.6082083679073705	--
<i>Acinos alpinus</i>	Ah		1.0		Velasco-Negueruela,A., Perez-Alonso,M.J., Jiminez,S.M. and Garcia,F.M. 1993. The Volatile Constituents of <i>Acinus alpinus</i> (L.) Moench ssp. <i>meridionalis</i> (Nyman). P.W. Ball Growing in Spain. Flav. & Frag. J. 8:127-130.)
<i>Acinos alpinus</i>	Shoot		1.0	-0.5388964310872448	Velasco-Negueruela,A., Perez-Alonso,M.J., Jiminez,S.M. and Garcia,F.M. 1993. The Volatile Constituents of <i>Acinus alpinus</i> (L.) Moench ssp. <i>meridionalis</i> (Nyman). P.W. Ball Growing in Spain. Flav. & Frag. J. 8:127-130.)
<i>Citrus paradisi</i>	Pericarp		1.0		--
<i>Teucrium scorodonia</i>	Shoot		0.13	-0.5545843904556943	Velasco-Negueruela, A. and Perez-Alonso, M.J. 1990. The Volatiles of Six <i>Teucrium</i> Species from the Iberian Peninsula and the Balearic Islands. Phytochemistry 29(4): 1165-9.

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Eucalyptus punctata</i>	Shoot		0.1	-0.5551253545718478	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. <i>Journal of Essential Oil Res.</i> 4: 259-264.
<i>Eucalyptus maculata</i>	Shoot		0.1	-0.5551253545718478	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. <i>Journal of Essential Oil Res.</i> 4: 259-264.
<i>Hyssopus officinalis</i>	Shoot		0.1	-0.5551253545718478	Tsankova, E.T., Konatchiev, A.N. and Genova, E.M. 1993. Chemical Composition of the Essential Oils of Two <i>Hyssopus officinalis</i> cultivars. <i>J. Ess. Oil Res.</i> 5: 609-611.
<i>Eucalyptus albens</i>	Shoot		0.1	-0.5551253545718478	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. <i>Journal of Essential Oil Res.</i> 4: 259-264.
<i>Eucalyptus maidenii</i>	Shoot		0.1	-0.5551253545718478	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. <i>Journal of Essential Oil Res.</i> 4: 259-264.
<i>Thymus zygis</i>	Shoot		0.1	-0.5551253545718478	Jimenez, J., Navarro, M.C., Montilla, M.P., Martin, A. and Martinez, A. 1993. <i>Thymus zygis</i> Oil: Its Effects on CCl4-Induced Hepatotoxicity and Free Radical Scavenger Activity. <i>JEO5</i> : 153-8.
<i>Eucalyptus siderophloia</i>	Shoot		0.1	-0.5551253545718478	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. <i>Journal of Essential Oil Res.</i> 4: 259-264.
<i>Eucalyptus melliodora</i>	Shoot		0.1	-0.5551253545718478	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. <i>Journal of Essential Oil Res.</i> 4: 259-264.
<i>Teucrium asiaticum</i>	Shoot		0.1	-0.5551253545718478	Velasco-Negueruela, A. and Perez-Alonso, M.J. 1990. The Volatiles of Six <i>Teucrium</i> Species from the Iberian Peninsula and the Balearic Islands. <i>Phytochemistry</i> 29(4): 1165-9.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Eucalyptus citriodora	Shoot		0.1	-0.5551253545718478	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus occidentalis	Shoot		0.1	-0.5551253545718478	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus astringens	Shoot		0.1	-0.5551253545718478	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus globulus	Shoot		0.1	-0.5551253545718478	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus blakelyi	Shoot		0.1	-0.5551253545718478	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Petroselinum crispum	Leaf		0.1	-0.6172292566864845	--
Eucalyptus botryoides	Shoot		0.1	-0.5551253545718478	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus bosistoana	Shoot		0.1	-0.5551253545718478	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus diversicolor	Shoot		0.1	-0.5551253545718478	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Teucrium oxylepis	Shoot		0.07	-0.5556663186880012	Velasco-Negueruela, A. and Perez-Alonso, M.J. 1990. The Volatiles of Six Teucrium Species from the Iberian Peninsula and the Balearic Islands. Phytochemistry 29(4): 1165-9.
Laurus nobilis	Bark		0.0		--
Laurus nobilis	Wood		0.0		--
Origanum syriacum	Shoot		0.0	-0.5569285682923593	Fleisher, A. & Fleisher, Z. 1991. Chemical Composition of Origanum syriacum L. Essential Oil. J. Ess. Oil Res. 3: 121-123.
Origanum syriacum	Shoot		0.0	-0.5569285682923593	Fleisher, A. & Fleisher, Z. 1991. Chemical Composition of Origanum syriacum L. Essential Oil. J. Ess. Oil Res. 3: 121-123.
Origanum syriacum	Shoot		0.0	-0.5569285682923593	Fleisher, A. & Fleisher, Z. 1991. Chemical Composition of Origanum syriacum L. Essential Oil. J. Ess. Oil Res. 3: 121-123.
Teucrium salviastrum	Shoot				Velasco-Negueruela, A. and Perez-Alonso, M.J. 1990. The Volatiles of Six Teucrium Species from the Iberian Peninsula and the Balearic Islands. Phytochemistry 29(4): 1165-9.
Hyssopus officinalis	Shoot				Kerrola, K., Galambosi, B. and Kallio, H. 1994. Volatile Components and Odor Intensity of Four Phenotypes of Hyssop (<i>Hyssopus officinalis</i> L.) J. Agric. Food Chem. 42: 776-781.
Carum carvi	Seed				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Foeniculum vulgare	Seed				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
Hyssopus officinalis	Shoot				Kerrola, K., Galambosi, B. and Kallio, H. 1994. Volatile Components and Odor Intensity of Four Phenotypes of Hyssop (<i>Hyssopus officinalis</i> L.) J. Agric. Food Chem. 42: 776-781.
Coriandrum sativum	Fruit				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Plectranthus amboinicus</i>	Plant				--
<i>Rosmarinus officinalis</i>	Leaf Essent. Oil				--
<i>Mentha arvensis</i> var. <i>piperascens</i>	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Syzygium aromaticum</i>	Fruit				--
<i>Hyssopus officinalis</i>	Shoot				Tsankova, E.T., Konatchiev, A.N. and Genova, E.M. 1993. Chemical Composition of the Essential Oils of Two <i>Hyssopus officinalis</i> cultivars. <i>J. Ess. Oil Res.</i> 5: 609-611.
<i>Angelica archangelica</i>	Root Essent. Oil				--
<i>Anethum graveolens</i>	Essential Oil				--
<i>Piper auritum</i>	Leaf				Tramil
<i>Mentha spicata</i>	Essential Oil				--
<i>Vitex agnus-castus</i>	Flower				Jim Duke's personal files.
<i>Vitex agnus-castus</i>	Fruit				Jim Duke's personal files.
<i>Piper nigrum</i>	Fruit				--
<i>Croton eluteria</i>	Bark				--
<i>Pastinaca sativa</i>	Root				--
<i>Foeniculum vulgare</i>	Fruit				--
<i>Teucrium oxylepis</i>	Shoot				Velasco-Negueruela, A. and Perez-Alonso, M.J. 1990. The Volatiles of Six <i>Teucrium</i> Species from the Iberian Peninsula and the Balearic Islands. <i>Phytochemistry</i> 29(4): 1165-9.
<i>Mentha spicata</i>	Leaf				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
<i>Abies alba</i>	Leaf				--
<i>Crocus sativus</i>	Silk Stigma Style				--

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Satureja obovata</i>	Leaf				Arreola, M.L., Navaro, M.C., Jimenez, J. and Ocana, F.A. 1994. Variations in Yield and Composition of the Essential Oil of <i>Satureja obovata</i> . <i>Phytochemistry</i> 35(1): 83.
<i>Satureja obovata</i>	Leaf				Arreola, M.L., Navaro, M.C., Jimenez, J. and Ocana, F.A. 1994. Variations in Yield and Composition of the Essential Oil of <i>Satureja obovata</i> . <i>Phytochemistry</i> 35(1): 83.
<i>Achillea millefolium</i>	Leaf				--
<i>Juniperus sabina</i>	Plant				--
<i>Pimpinella anisum</i>	Essential Oil				--
<i>Pinus sylvestris</i>	Leaf Essent. Oil				--
<i>Myristica fragrans</i>	Seed				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
<i>Teucrium pseudoscorodonia</i>	Shoot				Velasco-Negueruela, A. and Perez-Alonso, M.J. 1990. The Volatiles of Six <i>Teucrium</i> Species from the Iberian Peninsula and the Balearic Islands. <i>Phytochemistry</i> 29(4): 1165-9.
<i>Juniperus virginiana</i>	Leaf				--
<i>Capsicum annuum</i>	Fruit				--
<i>Pimenta racemosa</i>	Plant				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Coriandrum sativum</i>	Essential Oil				--
<i>Ephedra sinica</i>	Shoot				--
<i>Laurus nobilis</i>	Leaf Essent. Oil				--
<i>Thymus orospedanus</i>	Plant				J. Nat. Prod.
<i>Croton lechleri</i>	Plant				Taylor, Leslie. 2005. The Healing Power of Rainforest Herbs. SquareOne Publisher, Garden City Park, NY. 519 pp.
<i>Boswellia sacra</i>	Essential Oil				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.